

Amendments to Specification

Please replace a paragraph from line 13 to line 21 on page 7 with the following amended paragraph:

In a case that the large quantity of sample is injected quickly as described before, it is necessary that the shut-off device 12 operates before the closed loop control system operates corresponding to the increase in the pressure to start opening the control valve 3. Accordingly, it is necessary to shorten a response time of the signal path ~~composed~~ composed of the pressure sensor 2, operation device 16, comparison device 14, timer device 15 and shut-off device 12. To this end, a differential function may be added to the operation device 16 so that a sum of an increase rate of the pressure and the increased pressure portion is outputted as the value p' . As a result, it is possible to operate the shut-off device 12 based on a certain estimate of the increase rate of the pressure, thereby shortening the response time of the signal path.